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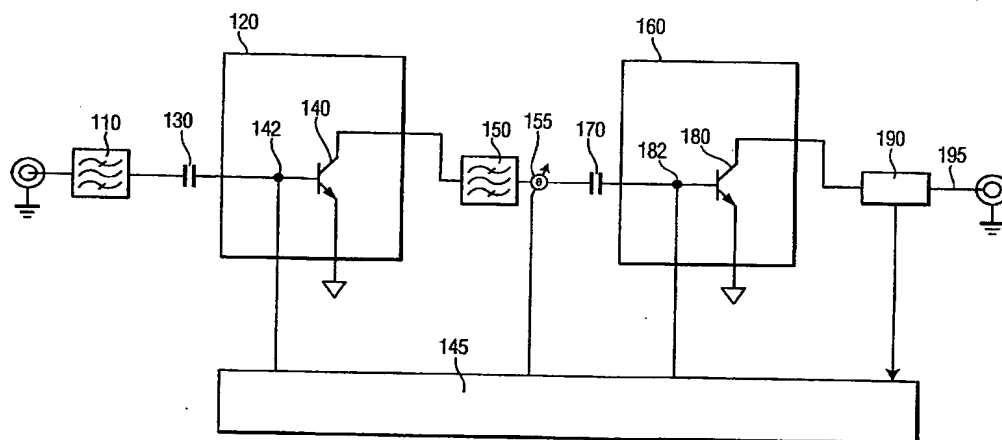
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Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations

[Continued on next page]

(54) Title: **PRESERVING LINEARITY OF AN ISOLATOR-FREE POWER AMPLIFIER BY DYNAMICALLY ADJUSTING GAIN AND PHASE**



(57) **Abstract:** An amplifier circuit (100) includes a driver stage (120) with at least an active device (140) for pre-amplification and output of a pre-amplified signal; and an output stage (160) with at least an active device (180) for further amplification of the pre-amplified signal and output of an amplified signal. A phase shifter (155) shifts the phase of the pre-amplified signal. A detector (190) measures levels of forward and reflected parts of the amplified signal, and a gain and phase control circuit (145) independently and selectively controls and adjusts the phase shifter (155) for optimal amplifier performance and minimal difference between the forward and reflected signals. The gain and phase control circuit also independently and selectively controls and modifies the gain of the active devices (140, 180) of the driver and output stages (120, 160) as a function of the levels of the forward and reflected signals to substantially maintain constant linearity of the amplifier circuit (100) with load variations.